BCS Higher Education Qualification

Professional Graduate Diploma

April 2025

EXAMINERS' REPORT

Advanced Database Management Systems

Questions Report:

A1	
	Two thirds of candidates chose to answer this question and they did generally well with two thirds of them passing the question. Answers to part a) were correct but usually more verbose than required. Part b) asked about three specific dimensions (models, architecture and performance), yet many learners chose to discuss use cases for the technologies rather than focusing on the required detail. Part c) needed to speak about dimensionality in data cubes which was not usually done; more worryingly despite the question clearly asking for examples many answers lacked to provide these. Part d) did not ask for an explanation of what a data warehouse is, yet many chose to describe that rather than answer the actual question of ETL. Where problems were mentioned, they often lacked detail, many answers omitted to discuss problems at all.
A2	
	A third of candidates chose to answer this, and answers overall were very weak. The problem was that overall learners omitted answering sub questions and usually did not answer the question that was asked. Part a) did not ask what the questions did, but very specifically wanted an exploration of exploring efficiency based on rows/fields processed; the question on indices asked what can be gained in terms of performance (which was not answered). Answers to Part b) were detailed and interesting, discussing all sorts of tuning techniques – however the question was specifically on hashing techniques which did not feature in many answers and were they did lacked any detail.
A3	
	Two thirds of candidates answered the question and answers were generally quite good, with the majority of learners passing the question. Answers to part a) discussed physical security as required and added sufficient variety of options and depth to answers. Some could have covered more angles. However, there were many answers that mixed options of logical security with the physical security approaches.

	Part b) was generally answered well. Part c) was often not attempted and some learners wrote select rather than grant statements.
B4	
	A small fraction of learners answered this question, but answers were generally of reasonable quality. Answers to part a) were addressing the question, some lacked details and not all addressed the dimensions requested in the question (storage and retrieval specifically were often not addressed). Part b) answers either were as expected (maybe lacking some detail or justification) or completely off topic. Part c) was about fragmentation which several learners seemed to confuse with normalisation; some of the answers that were on topic omitted to discuss benefits.
B5	
	This was the most popular question with 85% of learners attempting it; and 60% passed the question overall. Answers were not without problems: Too many learners did not understand the concept of a transaction, 2PC was often confused with 2PL (the former controls commits in distributed databases, the latter access to records in a multiuser database). When it came to locking of rows as concurrency control many answers described locking as security mechanisms. As a positive, most learners knew what triggers and stored procedures are, but many answers did not compare and contrast. Considering how fundamental concurrency and transaction management are to databases one would have expected a more robust understanding being shown.